ELECTRONIC INNOVATIONS IN ACTION

TUBES

PRODUCT INFORMATION

Gated-Beam Discriminator

6KS6

FOR FM AND TV LIMITER AND DISCRIMINATOR APPLICATIONS

The 6KS6 is a miniature gated-beam tube primarily designed to perform the combined functions of the limiter, discriminator, and audio-voltage amplifier in FM and television receivers.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC*	6.3±0.6	Volts
Heater Current‡	0.3	Amperes
Direct Interelectrode Capacitances§		
Grid-Number 1 to All	4.6	pf
Grid-Number 3 to All	3.4	pf
Grid-Number 1 to Grid-Number 3, maximum	0.005	pf

MECHANICAL

Operating Position - Any
Envelope - T-5 1/2, Glass
Base - E7-1, Miniature Button 7-Pin
Outline Drawing - EIA 5-3

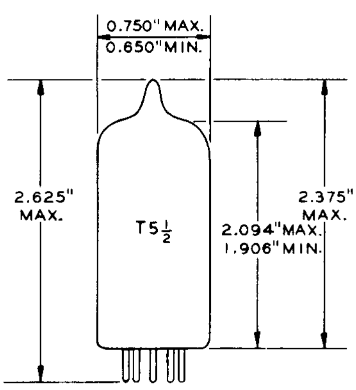
Maximum Diameter	0.750	Inches
Minimum Diameter	0.650	Inches
Maximum Over-all Length	2.625	Inches
Maximum Seated Height	2.375	Inches

MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

Plate-Supply Voltage	330	Volts
Accelerator-Supply Voltage	330	Volts
Peak Positive Grid-Number 1 Voltage	60	Volts
DC Cathode Current	13	Milliamperes
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode		
DC Component	100	Volts
Total DC and Peak	200	Volts
Heater Negative with Respect to Cathode		
Total DC and Peak	200	Volts

PHYSICAL DIMENSIONS

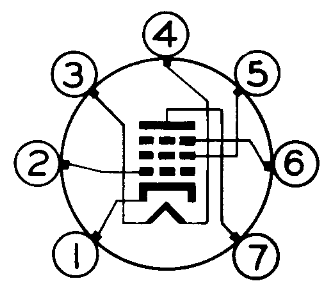


EIA 5-3

TERMINAL CONNECTIONS

Pin 1 - Cathode, Focus Electrode, and Internal Shield
Pin 2 - Grid Number 1 (Signal or Limiter)
Pin 3 - Heater
Pin 4 - Heater
Pin 5 - Grid Number 2 (Accelerator)
Pin 6 - Grid Number 3 (Quadrature)
Pin 7 - Plate

BASING DIAGRAM



EIA 7DF

MAXIMUM RATINGS (Cont'd)

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Plate Voltage	135	135	135	Volts
Accelerator Voltage	75	---	---	Volts
Accelerator-Supply Voltage	---	280	280	Volts
Accelerator Resistor	---	33000	33000	Ohms
Grid-Number 1 Voltage	0	0	0	Volts
Grid-Number 3 Voltage	+4.0	+4.0	0	Volts
Plate Current	---	5.0	---	Milliamperes
Accelerator Current	4.5	---	---	Milliamperes
Grid-Number 1 Transconductance	---	---	360	Micromhos
Grid-Number 3 Transconductance	---	---	700	Micromhos
Grid-Number 1 Voltage, approximate Ib = 20 Microamperes	---	---	-4	Volts
Grid-Number 3 Voltage, approximate Ib = 20 Microamperes	---	---	-4	Volts

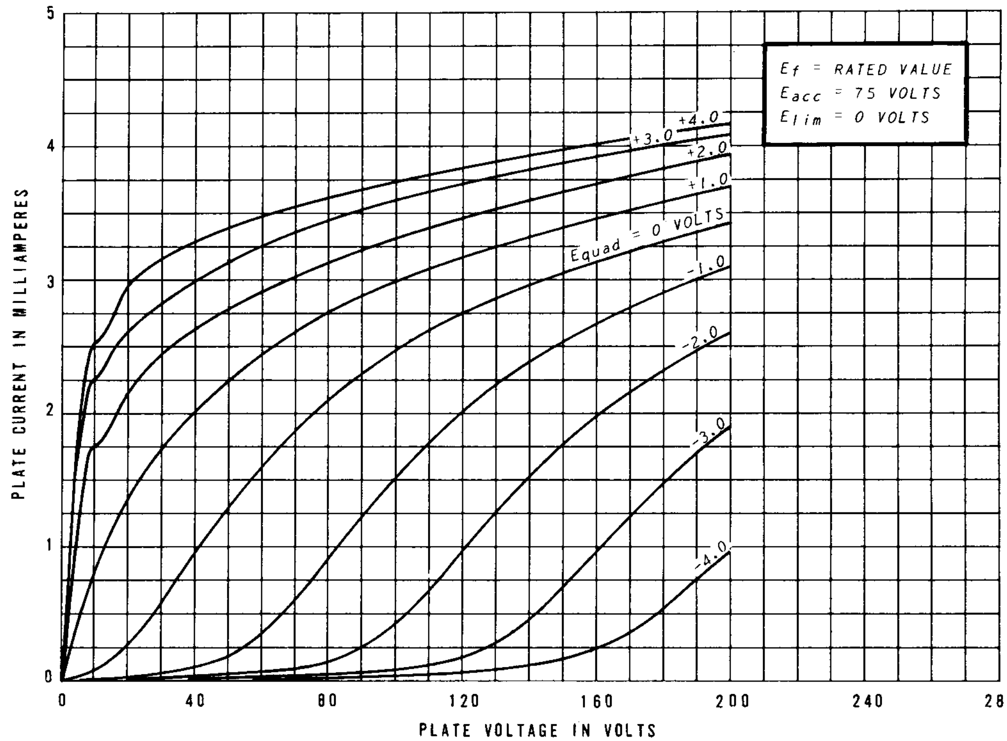
NOTES

* The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

‡ Heater current of a bogey tube at Ef = 6.3 volts.

§ Without external shield.

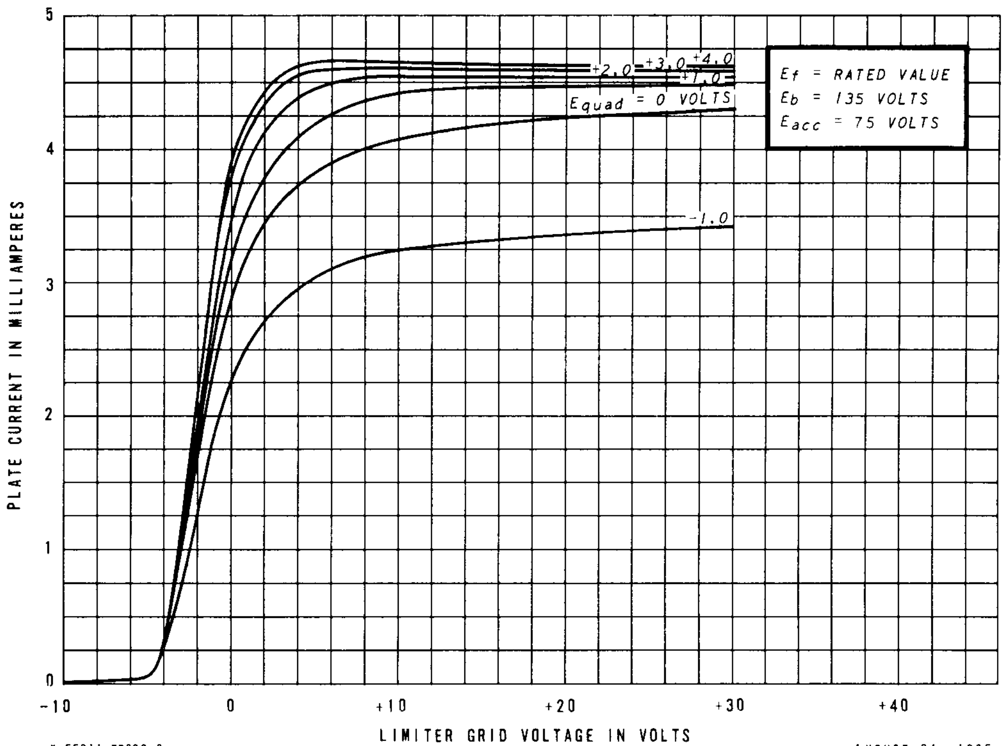
AVERAGE PLATE CHARACTERISTICS



K-55611-TD308-1

AUGUST 24, 1965

AVERAGE TRANSFER CHARACTERISTICS



K-55611-TD308-2

AUGUST 24, 1965

AVERAGE TRANSFER CHARACTERISTICS

